HEALTHCARE
Zebra® Printing Solutions

SEE MORE. DO MORE.
Zebra’s proven printer and media solutions are being used to improve safety, comfort and efficiency at every stage of a patient’s hospital journey. Barcodes are being used to help reduce identification mistakes as well as to speed up hospital processes from admission to discharge, from the pharmacy to the wards.

**Patient identification**, using Zebra wristband media and printers, provides a critical first step in many patient-safety improvement initiatives. Incorporating a barcode as well as text provides an essential extra safeguard against mistaken identity.

**Medical records** that carry a printed label incorporating a barcode are a more reliable way of ensuring that each patient’s record can be uniquely identified and tracked.

**Laboratory specimens** need to be accurately identified. Zebra printers are a convenient way of producing the labels at the patient’s bedside, at the nurses’ station or in the laboratory.

**Medication administration** can be both time-consuming and risky. With a mobile printer, the pharmacist can label a patient’s personal medication on the hospital floor, which saves time walking back to the pharmacy. The hospital pharmacy can also print unit-of-use barcode labels to provide a full audit trail.

**Blood transfusions** are a high-risk area, where inaccurate identification can lead to potentially fatal errors. Blood bags are routinely barcoded with their type. Adding a label with the intended patient’s details enables additional safety checks to be made automatically before the blood is given.

**Typical healthcare applications:**
- Blood-bag allocation labels
- Healthcare estate management, e.g. equipment inventories, preventative maintenance
- Laboratory specimens
- Medical records
- Patient identification
- Pharmacy labels
- Radiology films
- Staff identification
- Sterile-equipment processing
- Supply-chain management of materials
- Tracking labels for physiotherapy aids
- Ultrasound/ECG results
**Positive patient identification**

Over the 12-month period February 2006 to January 2007, the UK National Patient Safety Agency (NPSA) received 24,382 reports of patients being mismatched to their care.

It is estimated that more than 2,900 of these relate to wristbands and their use. (Source: NPSA Safer Practice Notice No. 27, July 07.)

Zebra’s range of desktop printers and wristband media provide an effective solution for improved patient safety. Whether you’re looking to overhaul and modernise your practices, or update your current system with minimal disruption. Wristbands are available for adult and paediatric patients. Solutions for babies and the maternity department are also part of the Zebra range. Printed wristbands can contain text, barcodes and even digital images so that all necessary details (including blood type, allergies and primary physician) are immediately visible.

For chronic patients who visit the hospital on a regular basis for treatment, hospitals may choose to issue patients with their own patient ID card that can be used to identify them through the admission and treatment processes.

**Specimen collection**: Print specimen labels at the point of collection on a mobile printer to ensure correct sample labelling.

**Blood transfusions**: Automate identity verification to cut risks. Use wristbands and accurate barcode labels to track blood units and samples.

**Bedside medication delivery**: Ensure the right drug for the right patient. Use barcode labels for medication identification.

**Where do medication errors occur?**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>33.3%</td>
</tr>
<tr>
<td>Transcription &amp; verification</td>
<td>31.3%</td>
</tr>
<tr>
<td>Dispensing</td>
<td>18.2%</td>
</tr>
<tr>
<td>Prescribing &amp; ordering</td>
<td>15.3%</td>
</tr>
<tr>
<td>Monitoring</td>
<td>1.9%</td>
</tr>
</tbody>
</table>


“Following the successful trial of Zebra wristbands at The National Healthcare Centre in Florence, research carried out alongside the trial has shown that using them prevented 220 cases of mistaken identity.”

Head of Operative Emergency Wards and Clinical Risk Manager
Florence National Healthcare Centre, Italy

“... a credible printing solution which meant Great Ormond Street Hospital rolled out a system that was NPSA compliant, yet easy for staff to operate.”

**Meredith Mora,**
CRS Project Manager,
Great Ormond Street Hospital for Children NHS Trust, United Kingdom.
Barcodes and printed labels: reduce administration time while increasing safety
When a barcoded patient-identification system is introduced into the hospital, not only does it reduce errors and the associated costs of correcting them (including potential litigation costs), but it also brings many other advantages. By moving to an automated data-entry and verification system, many administration tasks are streamlined and simplified so that staff can spend more time with the patients and less time dealing with paperwork. Such systems also improve overall visibility by providing real-time information on specimens, tests and results.

Mobility: decentralise computer and printer access for improved productivity
The availability of versatile mobile and wireless computers, printers and networks has enabled the redesign of many applications. The growth in the implementation of wireless networks and use of mobile hospital workstations has led to safer working practices and radically boosted staff efficiency.

Mobile printers for pharmacy staff or phlebotomists enables barcode labels to be printed on demand at the point of care – saving time. By printing the label at the patient’s bedside, the risk of error is greatly reduced, and it’s quicker to deliver the medication or identify the sample.

Printer management: monitor and control printer populations
Leveraging the power of Zebra LinkOS or ZebraLink™, ZebraNet™ Bridge Enterprise allows IT staff to deploy, manage and monitor Zebra printers centrally from a single PC screen anywhere on the network. Installation and configuration are fast, out of the box, and management is quick and simple with drag-and-drop functionality and wizard assistance. ZebraNet Bridge delivers reduced IT administrative time, costs and more printer uptime.
PATIENT ID SOLUTIONS FOR HEALTHCARE

Failure to correctly identify patients is one of the most serious risks to patient safety. Zebra has patient ID wristband solutions to meet your requirements whether you need something to fit in an existing infrastructure or if your hospital is ready to modernise its patient ID process.

**Laserband**
Zebra’s self-laminating LaserBand 2 Advanced direct print laser wristbands feature an advanced shape and design that makes assembly easy and allows the wristband to lie flat on the wrist to enable quick scanning, while providing superior patient comfort.

**Benefits:**
- Designed for use in laser printers.
- Self-laminating seal protects the wristband from liquids ensuring the wristband remains legible for longer.
- Designed to fit the contours of a patient’s wrist for improved readability and comfort.
- A wide range of wristband options; adult, paediatric and maternity & baby.
- Extender bars as well as white and red wristband options offer greater flexibility in identification.
- Unique ID Tags & ComfyCuff® padded cuffs designed specifically for newborn babies.
- Print wristbands and labels at the same time on one sheet.

**Genuine Zebra supplies**
Barcodes must scan successfully and the label material, inks or adhesives must not damage the printhead. Genuine Zebra labels and ribbons are tested thoroughly to ensure best performance in Zebra printers and to enhance printhead life.

**Z-Band**
Zebra’s direct thermal printable wristbands offer a simple and effective method of identifying patients quickly and clearly with minimal fuss. Designed for use in Zebra’s market-leading thermal printers, durable text and barcodes can be printed on-demand to help ensure positive patient identification.

**Benefits:**
- Direct thermal, ribbon-less printing for superior ease-of-use and the ability to quickly print and apply to patients.
- Wide range of materials designed to cover a range of patient concerns and hospital stays.
- UV varnish provides resistance to water, hand-sanitiser gels, mild cleansers and other substances used in hospitals, ensuring print remains legible throughout a typical hospital stay.
- Antimicrobial coating helps prevent the spread of common hospital infections.
- A wide range of wristband options; adult, paediatric and maternity & baby. Wristbands are available in white and red.
- Available in cartridges for the HC100 wristband printer.

Zebra Technologies offers numerous high-quality custom-made or off-the-shelf labels (ZipShip®), tags and ID cards, specially designed for healthcare applications.

<table>
<thead>
<tr>
<th>Mobile</th>
<th>Desktop</th>
<th>Mid-range</th>
<th>High-performance</th>
<th>Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLn series</td>
<td>2824 Plus</td>
<td>ZT200™</td>
<td>Xi series</td>
<td>ZXP Series 3™</td>
</tr>
<tr>
<td>Patient Identification</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Staff ID/access control</td>
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<tr>
<td>Laboratory specimens</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Medication administration</td>
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<td>✓</td>
<td>✓</td>
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<td>Medical-record labelling</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Blood-transfusion tracking</td>
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Mobile printers
Compact, convenient and lightweight, QLn series printers have a full range of connectivity options including 802.11a/b/g/n with full VPN support for secure transfer of patient data. Ideal for printing specimen or medication labels at the patient’s bedside, these printers are available in 50mm (2”), 76mm (3”) and 100mm (4”) print widths.

Desktop printers
Thermal desktop printers provide fast, convenient and reliable printing of patients’ wristbands and identification labels for samples, medication or files.

Zebra’s complete and integrated wristband solution combines the small-footprint HC100™ direct-thermal printer with easy-to-load cartridges containing Zebra’s antimicrobial Z-Band® Direct wristbands.* Its smart technology senses the wristband type and auto-calibrates the settings for optimised print quality.

Whether located in the pharmacy, laboratory or nurses’ station on the ward, the range of Zebra desktop printers offers either direct-thermal print technology, where ribbon-free easy-to-use systems are needed, or thermal-transfer print technology, where more durable printing is required (e.g. to withstand sterilisation).

* Use antimicrobial wristbands (which include biocides) safely. Always read the label and product information before use.

Mid-range printers
ZM400™
Capable of high-speed, high-volume printing and with a robust metal casing, the ZM400 printer is ideal for hospital supplies labels, stock control, asset-tracking and medical records.

High-performance printers
Xi™ series
Combining superior performance with longevity and rugged durability, the 110Xi4™ printer is ideal for printing blood-bag labels at the blood-donor centre. It has a 32-bit processor for fast throughput and increased memory for graphics, fonts and label formats such as the ISBT 128-specified label. The Xi4™ printers also offer more connectivity options including XML-enabled printing, ZebraNet wireless and wired print servers, and USB 2.0.

Card printers
Zebra’s range of card printers can support a wide variety of patient- and staff-identification requirements for hospitals. With colour printing, barcode, magnetic-stripe and smart-card technology, the cards can be used for identification and secure-access control applications.

The world’s first purpose-built wristband-printing solution.

“We are very happy with the way the Zebra printers are performing.”

eHealth Department
Raigmore Hospital, NHS Highland, UK